Openmold for CFRTP Pipe
by braiding and heating process

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In general, a press molding machine and a mold of closed molding system are necessary to produce carbon fiber reinforced thermoplastics (CFRTP). These initial equipment costs cause the increase in the production cost. An open molding method without using a mold is expected to reduce the production costs. Therefore, in this study, a new open molding method without molding die has been developed. In the molding method, an intermediate material, partial-impregnated commingled yarn with carbon fiber and PA66 (PCY) was used. CFRTP pipe was fabricated by simultaneous heating in braiding process. The reinforcements were braided structure with 45 degree fiber orientation angle to the longitudinal direction. CFRTP pipes were molded by changing the heating position in order to investigate the relationship between impregnation states and the heating position. The impregnation process were clarified by measuring un-impregnation area from the cross-sectional observation after molding.